

CLAIMS

1. A receiver comprising:
means for receiving a first plurality of signals at different frequencies at the
5 same time;
means for generating a second plurality of signals, a mixer for receiving at
the same time, the first plurality of signals at different frequencies and one
of the second plurality of signals at a time wherein the second plurality of
10 signals are received by the mixer in succession, said first plurality of
signals being mixed with successive ones of the second plurality of
signals; and filter means for receiving signals output from said mixer, said
filter means being arranged to provide a series of samples of the first
15 plurality of signals at the same frequency, wherein each of the said
samples are separated in time.
2. A receiver as claimed in claim 1, wherein said reducing means is arranged
to produce a plurality of sets of samples, each set of samples comprising
one sample for each of said first plurality of signals.
- 20 3. A receiver as claimed in claim 1, 2 or 3, wherein each of said first plurality
of signals has a plurality of bits and the reducing means is arranged to
generate a set of samples in a period equal to or less than the period of
one bit of said first plurality of signals.
- 25 4. A receiver as claimed in any preceding claim, wherein said generating
means comprises a direct digital synthesiser.

5. A receiver as claimed in any preceding claim, wherein the generating means is arranged to generate each of said second plurality of signals in turn.
- 5 6. A receiver as claimed in any one of the preceding claims, wherein the generating means is arranged to generate signals and then to change the frequency thereof to provide said second plurality of signals.
- 10 7. A receiver as claimed in claim 6, wherein the generating means comprise multiplier means for increasing the frequency of the generated signals to provide the second plurality of signals.
- 15 8. A receiver as claimed in claim 6, wherein the generating means utilises harmonics of said generated signals to provide said second plurality of signals.
9. A receiver as claims in claim 6, wherein the generating means comprises means for adding said generated signals to a further signal to provide said second plurality of signals.
- 20 10. A receiver as claimed in any one of the preceding claims, wherein the first plurality of signals are reduced by said reducing means so that the series of samples are at the same frequency.
- 25 11. A receiver as claimed in claim 10, wherein the reducing means comprises filter means for filtering out those of the plurality of first signals which after reducing are not at said same frequency.

12. A receiver as claimed in any preceding claim, wherein the reducing means comprises mixer means.
13. A base station incorporating a receiver as claimed in any preceding claim.
- 5 14. A base station as claimed in claim 13, wherein a time division multiple access system is used by said base station.
- 10 15. A method of receiving comprising the steps of:
receiving a first plurality of signals at different frequencies;
generating a second plurality of signals;
reducing the frequency of the first plurality of signals by mixing the first plurality of signals at different frequencies at the same time, and one of the second plurality of signals at a time wherein the second plurality of signals
15 are received by the mixer in succession, said first plurality of signals being mixed with successive ones of the second plurality of signals; providing a series of samples by filtering of the first plurality of signals at the same frequency, each of said samples being separated in time.